

In the Claims

1. (currently amended) ~~A process~~ Process for the in particular short-duration thermal treatment of in particular flat objects, such as semiconductor, glass or metal substrates, to or from which heat is supplied or dissipated on both sides, at least partially through heat conduction via a heat-conducting medium, characterized in that the heat-conducting medium used is a mixture of at least two gases with very different thermal conductivities, and the mixture is set individually on the two sides of the substrate in such a manner that the respective surface temperature is time-controlled taking account of the respective heat exchange via thermal radiation.
2. (cancelled)
3. (currently amended) ~~Method or apparatus~~ The method according to claim 2 ~~1~~, characterized in that the temperature is the same on both sides during the temperature-influencing action.
4. (currently amended) ~~Method or apparatus~~ The method according to claim 3, characterized in that the temperature is different on the two sides during the temperature-influencing action.

5. (currently amended) ~~Method or apparatus~~ The method according to claim 4, characterized in that the gases are hydrogen and nitrogen or helium and argon.
6. (currently amended) ~~Method or apparatus~~ The method according to claim 5, characterized by a continuous flow of gas into a gap space between temperature-influencing device and substrate.
7. (currently amended) ~~Method or apparatus~~ The method according to claim 6, characterized in that the gas flow is controlled by means of mass flow controllers.
8. (currently amended) ~~Method or apparatus~~ The method according to claim 7, characterized in that the substrate is mounted floating freely on a gas cushion formed by the gas stream associated with the underside of the substrate.
9. (currently amended) ~~Method or apparatus~~ The method according to one or more of the preceding claims claim 8, characterized in that the substrate is driven in rotation, floating freely, by the gas stream which forms the heat-conducting medium.
10. (currently amended) ~~Method or apparatus~~ The method according to claim 9, characterized in that the temperature control involves dissipation of heat or supply of heat.

11. (currently amended) ~~Method or apparatus~~ The method according to claim 10, characterized in that the gas composition or gas pressure changes during the heat exchange over the course of time.

12. (currently amended) ~~Method or apparatus~~ The method according to claim 11, characterized in that the mass flow of the thermally conducting medium into the gap spaces is so slight that the quantity of heat which is supplied or dissipated via the gas mass flow is significantly less than the heat which is dissipated or supplied via heat conduction.

13. (new) A method for thermal treatment of a substrate to or from which heat is supplied or dissipated, at least partially through heat conduction via a heat-conducting medium, comprising the steps of:

providing a first gas having a first thermal conductivity;

providing a second gas having a second thermal conductivity, the first thermal conductivity being different from the second thermal conductivity;

mixing the first and the second gases;

applying the mixture of gases individually to opposing sides of the substrate; and

controlling the surface temperature of the substrate to which the mixture of gases is applied via a time-controlled process.

14. (new) The method according to claim 13 wherein the substrate is selected from the group consisting of: semiconductor, glass, metal or combinations thereof.